

Day and Night with ADHD

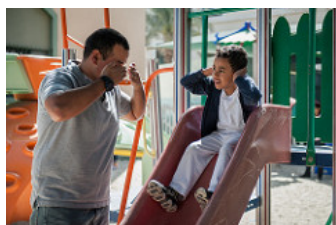
November 23, 2015

As a pediatrician who went through residency, you know about sleep deprivation. So do new parents who must deal with frequent infant feedings. Maybe you'd be surprised to know that 7% of children and adolescents in the US may also have sleep issues. That's the percentage of the young population diagnosed with attention deficit hyperactivity disorder...

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As a pediatrician who went through residency, you know about sleep deprivation. So do new parents who must deal with frequent infant feedings. Maybe you'd be surprised to know that 7% of children and adolescents in the US may also have sleep issues. That's the percentage of the young population diagnosed with attention deficit hyperactivity disorder (ADHD)¹. Many children with ADHD are treated with stimulants, which increase and maintain alertness. That is important for school and homework, but might mean the child has problems getting to sleep and staying asleep. The experts have disagreed about what stimulant medications do to a child's sleep. Stimulants permit a child with ADHD to pay attention in class, but may also increase the time it takes to fall asleep (sleep latency).³

New research published this month in *Pediatrics* sheds additional light on the problem of sleep in children with ADHD. Kidwell et al. ([10.1542/peds.2015-1708](#)) did a meta-analysis of randomized controlled clinical trials to assess sleep issues among children with ADHD who are prescribed stimulant medications. The authors only included trials in which children had ADHD, had random assignment to stimulant medications and objective sleep measurements. Only nine studies with total enrollment of 246 patients met those inclusion criteria.

Date used in modeling included information about the specific study and children in each study and sleep data that had been extracted by two independent coders. The meta-analysis calculated three sets of effect sizes based on comparing sleep latency of baseline sleep versus medicated sleep; sleep efficiency of baseline sleep versus medicated sleep; and total sleep time of baseline versus medicated sleep. The authors looked at outcomes and moderating factors affecting sleep in ADHD children on stimulants.

The authors found that stimulant medications led to longer sleep latency, worse sleep efficiency and shorter sleep duration. The study results suggest that children and adolescents who took stimulant medications had worse sleep, and that the time needed to fall asleep lengthened as the number of doses increased.

In practical terms, this study suggests that physicians who treat ADHD with stimulant medications need to pay attention to both day activities and sleep patterns of their patients with this problem. . The treatment goals of helping children do well during the days should not mean sleepless nights of tossing and turning. Making the best of day and night is a balancing act that requires close attention for children and adolescents with ADHD.

1. Thomas R, Sanders S, Doust J, Glasziou P. Prevalence of attention deficit/hyperactivity disorder: A systematic review and meta-analysis. *JAMA Pediatr* 2015; 135(4):e994-e1001.
2. Visser S, Danielson M, Bitski R et al. Trends in the parent-report of health care provider-diagnosis and medication treatment in ADHD disorder: United States 2003-2011. *J Am Acad Child Adolesc Psychiatry* 2014;53(1):34-46.
3. Ball JD, Tiernan M, Janusz J, Furr A. Sleep patterns among children with attention-deficit hyperactivity disorder: A re-examination of parent perceptions. *J Pediatr Psychol* 1997; 22(3):389-398.

Further Reading

- [Research Update: Most pediatricians treat ADHD but not other mental health issues](#)
- [The Frontiers of Research About Attention-Deficit/Hyperactivity Disorder](#)
- [Timing of the Diagnosis of Attention-Deficit/Hyperactivity Disorder and Autism Spectrum Disorder](#)

